

What is Claimed is:

1. A method for detecting the presence of hemolyzed erythrocytes in blood comprising detecting erythrocyte adenylate kinase in a serum sample from said blood.

2. The method of Claim 1, wherein said erythrocyte adenylate kinase, if present, is detected by the steps of:

(a) electrophoresing said serum sample in a gel matrix;

(b) contacting said gel matrix with an adenylate kinase-specific visualization reagent;

(c) exposing said gel matrix to ultraviolet light; and

(d) detecting said erythrocyte adenylate kinase.

3. The method of Claim 2, wherein said adenylate kinase visualization reagent comprises adenosine diphosphate, D-glucose, nicotinamide adenine dinucleotide, hexokinase and glucose-6-phosphate dehydrogenase.

4. The method of Claim 1, wherein said erythrocyte adenylate kinase is detected by contacting said serum sample with an antibody which specifically binds to erythrocyte adenylate kinase, and detecting the formation of a complex between said erythrocyte adenylate kinase and said antibody.

5. The method of Claim 4, wherein said contacting is effected by immunoprecipitation.

6. The method of Claim 4, wherein said contacting is effected by Western transfer blotting and immunodetection.

7. The method of Claim 4, wherein said contacting is effected by immunoelectrophoresis.

8. The method of Claim 4, wherein said detecting is effected by isotopic means.

9. The method of Claim 4, wherein said detecting is effected by nonisotopic means.

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10. The method of Claim 4, wherein said antibody is polyclonal or monoclonal.

11. A method for diagnosing a hemolytic condition in a subject suspected of having a hemolytic condition comprising collecting a serum sample from said subject, and detecting erythrocyte adenylate kinase in said serum sample.

12. A method of monitoring the level of hemolysis in a subject being treated for hemolysis comprising collecting a serum sample from said subject, and measuring erythrocyte adenylate kinase activity in said serum sample.

13. The method of Claim 12, wherein said erythrocyte adenylate kinase is measured by the steps of:
(a) determining the total adenylate kinase activity in said serum sample;

(b) calculating the percentage of erythrocyte adenylate kinase to said total adenylate kinase in said serum sample; and

(c) multiplying said percentage of erythrocyte adenylate kinase by said total adenylate kinase activity.

14. The method of Claim 13, wherein said total adenylate kinase activity is determined by mixing said serum sample with an adenylate kinase-specific visualization reagent and measuring absorbance of the mixture.

15. The method of Claim 13, wherein said percentage of erythrocyte adenylate kinase to said total adenylate kinase is determined by:

(a) electrophoresing said serum sample in a gel matrix so that said erythrocyte adenylate kinase migrates on said gel matrix;

(b) contacting said gel matrix with an adenylate kinase-specific visualization reagent;

(c) exposing said gel matrix to ultra-violet light;

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(d) determining the level of total adenylate kinase by measuring total fluorescent light emitted from said gel matrix;

5 (e) determining the level of erythrocyte adenylate kinase by measuring fluorescent light emitted from said gel matrix corresponding to said erythrocyte adenylate kinase migration; and

10 (f) calculating said percentage of erythrocyte adenylate kinase to said total adenylate kinase by dividing said level of erythrocyte adenylate kinase by said level of total adenylate kinase.

15 16. The method of Claim 12, wherein said erythrocyte adenylate kinase activity is determined by contacting said serum sample with an antibody which specifically binds to erythrocyte adenylate kinase, and calculating the activity of said erythrocyte adenylate kinase present in said serum sample by measuring antibody binding.

20 17. The method of Claim 16, which is effected by an enzyme-linked immunosorbent assay.

18. The method of Claim 16, which is effected by a radioimmunoassay.

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